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*D' word. Sub E3 Ext Cmt*

pharmaceutically effective amount of a chemical compound identified by the process of any of claims 224, 208, 209, 225, 226, 213, 214 or 227 or a novel structural and functional analog or homolog thereof, wherein said chemical compound has been recovered free of any soluble polypeptide. --

Applicants submit herewith a marked up copy of amended claim 222 attached hereto as **EXHIBIT 1.**

**REMARKS**

Claims 1 to 9, 14 to 48, 150, 208, 209, 213, 214 and 218-228 were pending in the subject application. By this Amendment, applicants have canceled claim 221 without prejudice or disclaimer and amended claim 222. Claims 1 to 9, 14 to 48, and 150 are withdrawn from consideration by the Examiner. Accordingly, upon entry of this Amendment, claims 208, 209, 213, 214, 218-220, and 222-228 as amended will be pending and under examination.

Applicants maintain that this Amendment raises no issue of new matter and is fully supported by the specification as filed. Support for the amendment to claim 222 may be found inter alia in the specification, as originally-filed, on page 66, lines 30-31.

Accordingly, applicants respectfully request that the Amendment be entered.

**Restriction Requirement**

On page 2 of the April 13, 2001 Final Office Action the Examiner stated that claims 1 to 9, 14 to 48, and 150 stand withdrawn from further consideration pursuant to 37 CFR §1.142(b), as being drawn to a nonelected invention. The Examiner acknowledged

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Applicants' timely traversal of the election requirement in Paper No. 8. The Examiner then stated that claims 221 to 223 are rejoined to the elected claims in light of Applicants' admission in Paper No. 10 that the subject matter in these claims and the subject matter of the elected invention are each obvious over the other under 35 U.S.C. §103.

**Rejection Under 35 U.S.C. §112, First Paragraph**

On page 3 of the April 13, 2001 Final Office Action the Examiner rejected claim 221 under 35 U.S.C. §112, first paragraph, for allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention and to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner alleged that there are no synthetic steps disclosed in the instant specification. The Examiner further alleged that to practice the method of claim 221 requires an artisan to first identify a compound which binds a leptin receptor and then resort to the substantial amount of undue experimentation that would be required to determine the structure of that compound and then to devise a process for its synthesis.

In response, in an attempt to advance the prosecution of the subject application, but without conceding the correctness of the Examiner's position, applicants have canceled claim 221, thereby rendering this rejection moot.

**Rejection under 35 U.S.C. §103(a)**

On page 3 of the April 13, 2001 Final Office Action the Examiner rejected claims 208, 209, 213, 214 and 218 to 228 under 35 U.S.C. §103(a) as unpatentable over the Chang, et al. publication (WO

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97/25424) for those reasons of record as applied to claims 77 (sic.) and 208 to 220 in section 6 of Paper No. 9. The Examiner acknowledged that applicants have traversed this rejection on the premise that the Chang, et al. publication ('424) will be removed as a reference by the submission of a declaration under 37 C.F.R. §1.31. The Examiner then stated that the rejection is maintained, since there is no declaration of record.

In Paper No. 9, section 6, the Examiner stated that Chang, et al. ('424) discloses an OB-Re having an amino acid sequence that is identical to the claimed OB-Re. The Examiner acknowledged that each of the prior art do not disclose the exact assay methods of the instant claims. [Emphasis added.]

In response, applicants respectfully traverse the rejection under 35 U.S.C. §103(a) and maintain that the pending claims are patentable over Chang, et al. (WO 97/25424).

Applicants note that the OB-Re of the claimed invention is defined in the independent claims, as:

- (a) a soluble polypeptide comprising consecutive amino acids, the amino acid sequence of which is shown in Figure 5 (SEQ ID NO: 10);
- (b) a soluble polypeptide having a sequence which varies therefrom by no more than 15 amino acids, such variations:
  - (i) not involving amino acids corresponding to the amino acids at positions 799-804 of the amino acid sequence shown in Figure 5 (SEQ ID NO: 10); and
  - (ii) not changing the functional properties of the soluble polypeptide; or
- (c) a soluble polypeptide comprising the soluble polypeptide of

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(a) or (b) linked to consecutive amino acids corresponding to a flag epitope.

The OB-Re defined in the subject application is a "soluble" receptor, i.e., by sequence comparison to the Ob-Re variants cited in the prior art, OB-Re lacks transmembrane domains and thus lacks an intracellular C-terminal tail. See page 1, lines 16-32 and Figures 6A-6B of the pending application. OB-Re is a "soluble" receptor because it is secreted from a cell into the extracellular domain.

The sequence of the OB-Re of Chang, et al. is identical to the amino acid sequence set forth in Figure 5 (SEQ ID NO: 10) of the subject application. Applicants note that PCT International Application No. WO 97/25424, published on July 17, 1997, i.e., less than one year before applicants' filing date. Attached hereto as **EXHIBIT 3** is a copy of U.S. Serial NO. 08/582,825, filed January 4, 1996, the first priority document for WO 97/25424. Attached hereto as **EXHIBIT 4** is a copy of U.S. Serial No. 08/774,414, the second priority document for WO 97/25424. Applicants have highlighted the subject matter that was presented for the first time in U.S. Serial No. 08/774,414, i.e., the subject matter that would not be entitled to the January 4, 1996 priority date. As evidenced therein, all disclosures of the soluble OB-Re and binding claims employing such a soluble OB-Re were added for the first time in the December 31, 1996 priority document. Accordingly, applicants maintain that WO 97/25424 (Chang, et al.) is effective as a reference against the claimed process only as of December 31, 1996.

As evidenced by the attached Declaration of Nika Adham, Beth Borowsky, Nigel Levens, and Radek C. Skoda under 37 C.F.R. § 1.31, attached hereto as **EXHIBIT 2**, applicants had conceived and reduced to practice the claimed invention, specifically an

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embodiment recited in claim 224, before December 31, 1996. Claim 224 recites a process for determining whether a chemical compound specifically binds to a soluble polypeptide. The Declaration specifically shows that prior to December 31, 1996, the Binding Assay was obtained by Noel Boyle under the direct supervision of co-inventor Nika Adham in the United States at the laboratories of Synaptic Pharmaceutical Corporation, an assignee of record of the subject application.

Applicants maintain that in view of the Declaration, Chang, et al. should be withdrawn as a reference. Accordingly, applicants respectfully request that this rejection be withdrawn.

**Rejection under 35 U.S.C. §102(b)**

On page 4 of the April 13, 2001 Final Office Action the Examiner rejected claims 221 to 223 under 35 U.S.C. §102(b) as allegedly being anticipated by any one of Jackson, et al., Verploegen, et al. and Grasso, et al. The Examiner alleged that the limitations "identifying a chemical compound" and "a chemical compound identified by the process of" are product-by-process limitations. The Examiner alleged that the analytical process recited in the claims would identify any compound which binds to the leptin receptor employed therein. The Examiner further alleged that the analytical process limitations recited in the instant claims do not materially distinguish the compound employed in the "method of making a composition" as claimed from those leptin receptor binding compounds which were employed Jackson, et al., Verploegen, et al. and Grasso, et al. The Examiner concluded that these claims allegedly encompass any method which combines a compound, which can be identified by that analytical method, with a carrier, irrespective of how the compound was actually identified.

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In response, in an attempt to advance the prosecution of the subject application, but without conceding the correctness of the Examiner's position, applicants have canceled claim 221 and amended claim 222. Applicants note that claim 223 is dependent on claim 222. Claim 222, as amended, now recites:

The method of obtaining a composition which comprises admixing a carrier and a pharmaceutically effective amount of a chemical compound identified by the process of any of claims 224, 208, 209, 225, 226, 213, 214 or 227 or a novel structural and functional analog or homolog thereof, wherein said chemical compound has been recovered free of any receptor.

Applicants note that amended claim 222 includes a separation step. Applicants maintain that the claimed process does distinguish the identified compound from an identical compound which was not identified by the analytical method recited in these claims. Applicants further maintain that the amendments to claim 222 eliminate the product-by-process limitation, thereby rendering the claimed process patentable.

Accordingly, applicants respectfully request that this rejection be withdrawn in light of the amendments and remarks made hereinabove.

**Rejection under 35 U.S.C. §103(a)**

On page 7 of the April 13, 2001 Final Office Action the Examiner rejected claims 208, 209, 213, 214, 218 to 220 and 224 to 228 under 35 U.S.C. §103(a) as unpatentable over any one of Jackson, et al., Verploegen, et al. and Grasso, et al. in view of Applicants' assertion on the record that the subject matter of these claims is obvious over the subject matter of claims 221 to 223.

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Applicants note that claim 221 has been canceled and claim 222 has been amended. Applicants maintain that amended claim 222 contains patentable subject matter for the reasons stated hereinabove with respect to the rejection under 35 U.S.C. § 102(b). Applicants further maintain that if claims 222 and 223 are patentable then claims 208, 209, 213, 214, 218 to 220 and 224 to 228 are also patentable.

Accordingly, applicants respectfully request that the Examiner reconsider and withdraw this rejection.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee is deemed necessary in connection with the filing of this Amendment. However, if any fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

*John P. White* 6/26/01  
John P. White Date  
Reg. No. 28,678